

A Rare Case of Ascending Colon Perforation Caused by a Large Fish Bone

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To the Editor: Fish bone is a kind of common ingested foreign body. In most cases, it may pass through the gastrointestinal tract or retain upper digestive tract such as the oral cavity, esophagus.^[1] However, ascending colon perforation by huge fish body is rare, which can cause several complications.^[2] There are only few cases of colon perforation by foreign body in the literature.^[3] Here, we presented an unusual case due to the size of the fish bone, its location of the digestive tract, and successful diagnosis and treatment.

In July 2016, a 60-year-old man was presented with complaints of persistent dull ache in the right upper quadrant without nausea and vomiting for a week. A history of eating fish food 10 days ago was present. On physical examination, the patient had tenderness localized to the right upper abdomen without rebound tenderness, and Rovsing's sign was questionable positive. Blood investigations showed hemoglobin was 112 g/L, and white blood cells count was $8.59 \times 10^9/L$. Cholecystitis, gastritis, and perforation of colon caused by foreign bodies were considered. Abdominal ultrasound was performed, which showed a 37-mm foreign body in the area of ascending colon without peritoneal effusion [Figure 1a]. A three-dimensional (3D) reconstruction abdominal computed tomography (CT) scan was performed, and a hyperdense linear object was seen in the abdominal cavity [Figure 1b]. Therefore, the patient was diagnosed as perforation of colon caused by foreign bodies.

There was no foreign body seen using intraoperative colonoscopy while an acutely inflamed ascending colon near hepatic region and a fistula with blood was observed [Figure 1c]. The decision of exploratory laparotomy was taken with diagnosis of ascending colon perforation. On exploration, a protruding foreign body was found through the perforation in the ascending colon [Figure 1d]. That was identified as a thin, curvilinear fish bone, approximately 37 mm in length and 2 mm in width. The surgery was successful, and the patient was discharged 5 days after the operation without any unexpected event.

The ascending colon perforation by fish bone is extremely uncommon, with few cases reported.^[4] The most common perforation site of the digestive tract is the esophagus because of its anatomical nature. Fish bones can not only cause pathology in

the part of digestive tract but also involve adjacent organs. The clinical presentation may vary and can mimic a diverse entity of clinical conditions. In our case, the patient complained of pain in the abdomen that was similar to gastritis. Sometimes, difficulties arose in diagnosis from fish bone ingestion.

There are three tools available to diagnose fish bone in the digestive tract. The 3D CT reconstruction is a feasible and effective method of detecting the fish bone. It also could directly show the relationships between the foreign body and surrounding tissues. Ultrasound

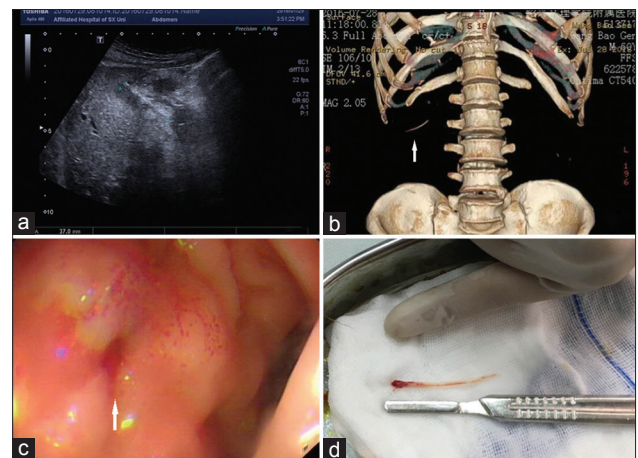


Figure 1: (a) The picture of abdominal ultrasound; (b) the picture of three-dimensional reconstruction computed tomography (the white arrow indicates the foreign body); (c) the picture of intraoperative colonoscopy examination (the white arrow indicates fistula into the ascending colon wall); (d) the fish bone after retrieval.

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may be a high sensitivity in detecting hyper-reflective foreign bodies. However, it is not always reliant due to some factors such as wrapped by tissues nearby and the operator's performance. The third one is plain abdominal radiograph. That is most often negative and considered as an ineffective at diagnosing fish bone ingestion.

Early diagnosis and timely treatment is the key to a fair prognosis. If there is a lack of peritoneal irritation, intraoperative colonoscopy can be employed as assessing the location of the fish bone in the digestive tract and improving lesion localization. However, if the colon has been confirmed perforation, the decision of exploratory laparotomy needs to be considered. A reference reported delayed massive bleeding caused by an ingested fish bone. Costa *et al.* pointed out that codfish may cause acute abdomen.^[5] In our study, the successful treatment was performed in our patient.

Therefore, the operation timing for the removal of a fish bone should be tactically considered, and we should always keep in mind that delayed complications, such as the migration of the foreign body into an adjacent organ.

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Conflicts of interest

There are no conflicts of interest.

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